



Report to: General Committee

Date Report Authored: June 21, 2011

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**SUBJECT:** Birchmount Road and Verclaire Gate Environmental  
Assessment for Rouge River Bridge Crossings

**PREPARED BY:** Alberto S. Lim, Capital Works Engineer Ext. 2860  
Alain Cachola, Manager, Capital Works Ext. 2711

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**RECOMMENDATION:**

- 1) **THAT** the staff report entitled, "Birchmount Road and Verclaire Gate Environmental Assessment for Rouge River Bridge Crossings" be received;
- 2) **AND THAT** staff be authorized to finalize the Class EA Study and file it with the MOE in accordance with the Class Environmental Assessment Act;
- 3) **AND THAT** staff be authorized to proceed immediately with the detailed design of the Birchmount Road Rouge River bridge crossing, notwithstanding the outstanding MOE approval of the Class EA Study;
- 4) **AND THAT** Council authorizes the Mayor and the Clerk to execute development agreement(s) with the Remington Group (Ruland Properties Inc.) and / or Markham Avenue 7 Land Owners Group or any other parties having jurisdiction, in a form satisfactory to the Chief Administrative Officer and the Town Solicitor for the funding and construction of Birchmount Road from Verclaire Gate to the north limits of Remington Group lands;
- 5) **AND THAT** staff be authorized and directed to do all things necessary to give effect to this resolution.

**EXECUTIVE SUMMARY:**

Not Applicable

**PURPOSE:**

The purpose of this report is to:

- 1) Update Council on the preferred option for the Birchmount Road and Verclaire Gate Rouge River Bridge Crossings;
- 2) Obtain Council's authorization to file the Class EA Study with the MOE for final approval;
- 3) Obtain Council's authorization for the execution of development agreements for the funding and construction of Birchmount Road from Verclaire Gate to the north limits of Remington Group lands;
- 4) Obtain Council's authorization to proceed immediately with the detailed design of the Bridge Crossing for Birchmount Road.

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**BACKGROUND:**

Amendment No. 21 (OPA 21) to the Town's Official Plan establishes the policy framework for the creation of an intense, urban mixed-use and transit supportive downtown for Markham, known as Markham Centre. In support of these development projections, a comprehensive road network was proposed which included three crossing of the Rouge River - Birchmount Road, Verclaire Gate and Sciberras Road. To this effect, the Town of Markham undertook a Municipal Class Environmental Assessment for the proposed bridge crossings of the Rouge River at Birchmount Road and Verclaire Gate. This Class EA study will address the need to deal with projected traffic volumes in Markham Centre as a result of anticipated growth. It also evaluates the impacts of the Rouge River Crossing at Birchmount Road and Verclaire Gate. Alternatives have been examined to which option result in minimal disruptions to the existing Rouge River and that will minimize construction costs.

The Class Environmental Assessment for the extension of Birchmount Road from 14<sup>th</sup> Avenue to Highway 7 was completed in 1996. Since the allotted 10 years from the filing of the Notice of Completion of Environmental Study Report has elapsed, an addendum to the Class Environmental Assessment for Birchmount Road is required. The addendum requires the proponent, in this case, the Town of Markham, to review the planning and design process and the current environmental setting to ensure that the project and mitigation measures are still valid given the current planning context. The proponent's review must be recorded in an addendum to the Environmental Study Report and placed on public record.

The Class EA and addendum for the Birchmount Road EA focuses on the Rouge River crossing and the selection of the preferred cross section and location, as well as the determination of a preferred structure type and span over the Rouge River based on an assessment of the impacts of different locations of crossings and different span types. The proposed extension will run from Highway 7 to the existing section of Verclaire Gate south of the Rouge River. This extension has been identified as necessary to accommodate residential and employment growth in Markham Centre as well as transit, pedestrian, cycling and vehicular traffic needs.

The bridge structure at Birchmount Road crossing the Rouge River and the roads indicated in Attachment A are necessary to be constructed in order for Markham District Energy (MDE) to convey services to the proposed Markham Centre Phase I in the Times Development lands that is currently being constructed. Times Development, through their Subdivision Agreement has already financially secured the local component cost of Birchmount Road within their lands. Remington has agreed in principle to upfront the local component cost of Birchmount Road on their lands and convey the Birchmount Road right-of-way to the Town. A development agreement with Remington is required by summer of 2011 in order to capture the obligations of Remington and the Town with respect to the construction of the section of Birchmount Road on the Remington Lands. The Town will construct the extension of Birchmount Road from Times Development to

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the existing road on the Remington property in conjunction with the proposed bridge construction.

Verclaire Gate is the extension from Highway 7 to the existing development south of the Rouge River. The extension has also been identified in the Markham Transportation Planning Study of 2004 as necessary to accommodate transit, pedestrian, cycling and vehicular traffic needs in Markham Centre. A Schedule C Class EA is being undertaken for Verclaire Gate to evaluate options and develop a preferred alternative at the Rouge River crossing. There is currently no timeline of when the proposed crossing is to be constructed.

## **OPTIONS CONSIDERED:**

### **Review of Alternatives:**

An evaluation exercise was undertaken by the consultant that carried out the Class EA Study to review and evaluate a number of options with considerations to several categories: the natural environment, the social environment, community planning, cultural environment, technical feasibility and financial viability.

Following the evaluation and sensitivity analysis, the consultant determined that the option with bridge crossings at both Birchmount Road and Verclaire Gate offered the greatest flexibility and advantage to all the categories considered. This option provides the greatest amount of link capacity with two four-lane crossings. Additionally, by providing two connections to Highway 7, these two intersections are expected to operate significantly better than if only one intersection with Highway 7 was available. This option also provides the greatest connectivity for transit, cyclists and pedestrians by providing two crossings of the Rouge instead of one. This also provides greater connectivity to the off-road trails network, and greatly enhances the routing options for public transit.

### **Conceptual Bridge Designs:**

Both bridge structures at Birchmount Road and Verclaire Gate will be conventional bridge designs with enhanced urban design features. Decorative guard-rails, lighting, observation "lookout" platforms, brick facing, etc., will be finalized during the detailed design stage. The bridge structures will be provided with connections to the Markham Greenland Trail System and to bike lanes and sidewalks on Birchmount Road and Verclaire Gate.

#### **Birchmount Road:**

It is proposed that the Birchmount Road crossing will have a minimum span of 80m (two -40m spans). The bridge abutments will be located within the table lands and the pier would be away from the watercourse. The abutments will be perched close to the top of bank, so there would be limited fill on the valley lands. The entire valley would be spanned by the bridge crossing. A conceptual rendering of the proposed Birchmount Road Bridge is shown on Attachment B.

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**Verclaire Gate:**

It is proposed that Verclaire Gate would have a total span of 69m. The pier is close to the bank of the watercourse. It will have to be an asymmetrical bridge design in order for the pier footing to be outside of the watercourse. The bottom width will be about 37m as recommended by the geomorphologic report that was prepared for this study. In order to minimize the environmental impacts, the details of the fill placement within the valley floor will have to be reviewed at the detailed design stage. A conceptual rendering of the proposed Verclaire Gate Bridge is shown on Attachment C.

**Urban Design Input:**

As part of the Class EA Study, an interim grading design was prepared by the consultant that shows how the adjacent parklands will interact with the proposed bridge structures. The interim grading plan incorporated the Master Plan for the Markham Centre Greenland Park and took into account active uses in the parklands such as public trails and cycling routes.

Direct input for the enhanced features of the bridge structures will be solicited from the Town's Urban Design group during the detailed design stage of the bridge design.

**DISCUSSIONS:****Public Information Centres:**

The first Public Information Centre (PIC) was held on February 25, 2010. The purpose of PIC No. 1 was to present the rationale for undertaking the project and described the road alignment alternatives being considered. Members of the public were invited to complete comment forms to express their concern and issues related to the information presented. One member of the public and one elected official were present at PIC No. 1.

The concerns expressed by the individual that attended PIC No. 1 was the perceived increase in traffic through the intersection of Birchmount Road and Highway 7.

Following the PIC No. 1, the TRCA requested that conceptual bridge designs for both Birchmount Road and Verclaire Gate with input from Urban Design be incorporated into the Class EA study. The TRCA requested that the natural heritage corridor between Warden Avenue and Kennedy Road be respected during the development of Markham Centre and that the natural functions of the valley such as being a recreational playground, passageway for wildlife creatures and the use of public trails be incorporated as part of the overall design of the bridge structures. In addition to the functionality of the bridge structures, the TRCA requested consideration should be given to the aesthetic look of the bridge structures.

The second Public Information Centre (PIC) was held on April 20, 2011. The second PIC presented the evaluation criteria, the evaluation, and the preferred option, which includes two crossings: one at Birchmount Road and the other at Verclaire Gate. Members of the public were invited to complete and submit comment forms to express concerns/issues

related to the information presented. Five (5) members of the public were present at this PIC.

The issues raised by those that attended PIC No. 2 included the timing of construction of the bridge structures and road extension of Birchmount Road to Highway No. 7 and the widths of the bicycle lanes on the Birchmount Road right-of-way.

### **FINANCIAL CONSIDERATIONS:**

The following table presents the preliminary schedule and costs to construct the bridge structures crossings and roads at Rouge River. The construction schedule will be finalized subject to EA approval, capital funding and Council approval. The proposed bridges are included in the Town's Development Charges background study, and are to be 100% DC funded.

<b>Bridge Crossing @ Rouge River</b>	<b>Road Length (m)</b>	<b>Min. Bridge Span (m)</b>	<b>Design Year</b>	<b>Estimated Design Fees</b>	<b>Estimated Construction Costs</b>	<b>Funding Source</b>
Birchmount Road	145	80	2011	\$560,000	\$5.4 Million	100% DC
Verclaire Gate	122	69	TBD	\$450,000	\$4.6 Million	100% DC
<b>Totals</b>				<b>\$1,010,000</b>	<b>\$10.0 Million</b>	

The projected costs of the road construction through the Remington lands are indicated in the following table. The length of Birchmount Road is from Verclaire Gate to the proposed Birchmount Road bridge. The length of Verclaire Gate is from the north limits of the Remington property to the proposed Verclaire Gate bridge. The section of Birchmount Road is included in the Town's Development Charges background study and is to be funded at 68% of the cost. The remaining 32% is to be funded by the developer as this is considered the local component of the road. Verclaire Gate on the other hand is not included in the Town's Development Charges background study and is to be funded by the developer at 100% of the cost.

<b>Road</b>	<b>Road Length (m)</b>	<b>Design Year</b>	<b>Estimated Design Fees</b>	<b>Estimated Construction Costs</b>	<b>Funding Source</b>
Birchmount Road	280	2011	\$112,000	\$1,120,000	32% Developer 68% DC
Verclaire Gate	60	TBD	\$24,000	\$240,000	100% Developer
<b>Totals</b>			<b>\$136,000</b>	<b>\$1,360,000</b>	

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**NEXT STEPS:**

Subject to Council approval, the Environmental Assessment Study Report will be completed by the consultant and filed with the Ministry of Environment. Normally, not until after the successful completion of a minimum 30 day appeal and review period would the Town proceed with the detailed designs of the bridge crossing and the roads connecting Birchmount Road from Times Development to the existing on Remington lands. However, due to time and scheduling constraints relating to development in Markham Centre, Town staff recommend that the design stage proceed immediately. The bridge structure on Birchmount Road needs to be constructed by December 2012 in order for Markham District Energy to extend their services to Markham Centre Phase I on the Times Development lands and in time for the expected occupancy of the condominiums in this development in March 2013. For this to happen, construction of the bridge structure must commence by Spring (April) of 2012. It is estimated that the design, submission, review and approval process of the bridge structure and roads may take up to eight (8) months in total. It is therefore critical that the design proceed immediately in order to meet the tight schedule.

Typical bridge and road projects of this magnitude will typically take around 12-14 months to design and over two construction seasons to complete. But due to the developers timing constraints and requirements for utility servicing, Town staff has to fast track the design and construction of the Birchmount bridge project.

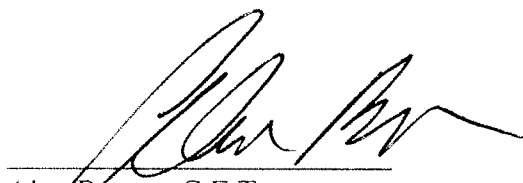
**ALIGNMENT WITH STRATEGIC PRIORITIES:**

The extension of Verclaire and Birchmount Roads, including the Birchmount Rouge River Crossing and Verclaire Rouge River Crossing is a key transportation component of the Markham Centre development.

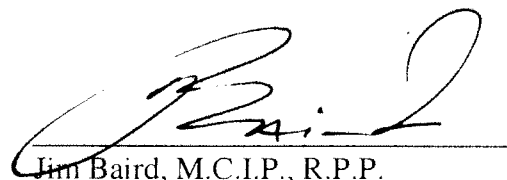
This Municipal Class Environmental Assessment is in line with the Town of Markham's strategic focus relating to Growth Management, Transportation/Transit, Safety, the Environment and Municipal Services.

**BUSINESS UNITS CONSULTED AND AFFECTED:**

This report was reviewed by the Planning / Urban Design and Legal Departments.

**RECOMMENDED BY:**

Alan Brown, C.E.T.  
Director of Engineering



Jim Baird, M.C.I.P., R.P.P.  
Commissioner, Development Services

**ATTACHMENTS:**

Attachment "A" -- Birchmount Road and Verclaire Gate General Plan

Attachment "B" -- Proposed Birchmount Road Bridge

Attachment "C" -- Proposed Verclaire Gate Bridge